

The Ballarat Naturalist

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Friday 6th May “Lake Corangamite – a neglected lake”

Our invited speaker, Dr Leon Bren, is a forest hydrologist with wide research experience across Victoria, based at the Creswick Campus of University Melbourne. In his talk, Leon outlined the contents of a book he is planning to write about Lake Corangamite. This will cover the lake’s geography, history, hydrological ‘management’, environmental values and speculation on future use and management. Although there is a large data base on the lake, there are gaps in knowledge and some uncertainty about the voracity of information on water and salinity levels over time. The Traditional Owners of the area are The Eastern Maar.

Lake Corangamite is Victoria’s largest lake – about 60 km long and 10-20 km wide – and has a strange shape. It is also the largest permanently saline lake in Australia, with salinity around 3 times that of sea water. The Lake has no outlet, yet its level is mainly unresponsive to rainfall. It is surrounded by various smaller lakes that were probably all part of one much larger lake. The lake is believed to have been formed by volcanic flows blocking the course of the Woody Yaloak River. It is shallow and unsuited for use by recreational craft.

The land around the lake was inhabited by Indigenous peoples, although the seasonality and the precise uses of the ‘stony rise’ country and the very salty lake are uncertain. After European arrival various settlement blocks were opened, starting around 1840, and later including soldier settlement schemes. Much of the land was stony but generally regarded as fertile. There were various proposals to drain the lake to obtain more agricultural land. In the mid 1950s, concerns arose that farm livelihoods were threatened by rising lake water levels (the ‘Creeping Lakes’ theory).

So in the 1950s a large channel 60 km long was built to divert flows from the Woody Yaloak River, away from Lake Corangamite and into the ‘Cundare Pool’, which was intended as an irrigation basin. This project led to dramatic reductions in flows into Lake Corangamite and raised salinity levels. There were objections from landholders in the neighbouring Barwon River catchment about salinity issues, compounded by an unexpected rise in salinity of Cundare Pool. Leon’s research for the book will examine the various

structures and outcomes of this 1950s drainage project and their environmental and social impacts on Lake Corangamite.

Conservation values

The ‘Lake Corangamite Reserve’ has various associated Nature Conservation Reserves (NCRs) and other scenic or biologically important sites: Floating Islands NCR; Pomborneit North NCR; Dreeite NCR (known for Corangamite Water Skinks); Red Rock Bushland Reserve (owned by Colac/Otway Council). McVean’s Spring is a freshwater site of high biological diversity.

Corangamite is the largest of the nine Western District Lakes listed under the Ramsar Convention and is said to be a haven for certain migratory and non-migratory birds. The area also contains many other important Western District Ramsar wetlands. The lakes vary in salinity, and only Lake Terangpom (Wildlife Reserve) has fresh water. Apart from salt tolerant plant species on the northern shoreline, the vegetation of the south and south east sides of the lake is more interesting.

Lake access and historical highlights

Road access to the lake shore is mainly from the west (but still very limited). Even some nature reserves (NCRs) are difficult to reach and require landholder permission. Pomborneit North NCR requires permission from Eastern Maar people as well as local farmers and requires 4WD vehicle – but has very interesting remains of curved stone walls of Aboriginal dwellings. In his book ‘Dark Emu’, Bruce Pascoe observed that European settlers *displaced the people but kept the local place names, and they built gun slots in the walls of their houses for protection*.

The south and western sides of the Lake have several early settler homesteads, mainly not accessible to visitors. Other aspects of the lake’s history include unsuccessful attempts around the 1890’s to acclimatise salt water fish species. The lake was intensively used during WWII as a bombing range from an RAF air base at Cressy. Three aircraft crashed into the lake and numerous unexploded bombs are known to exist.

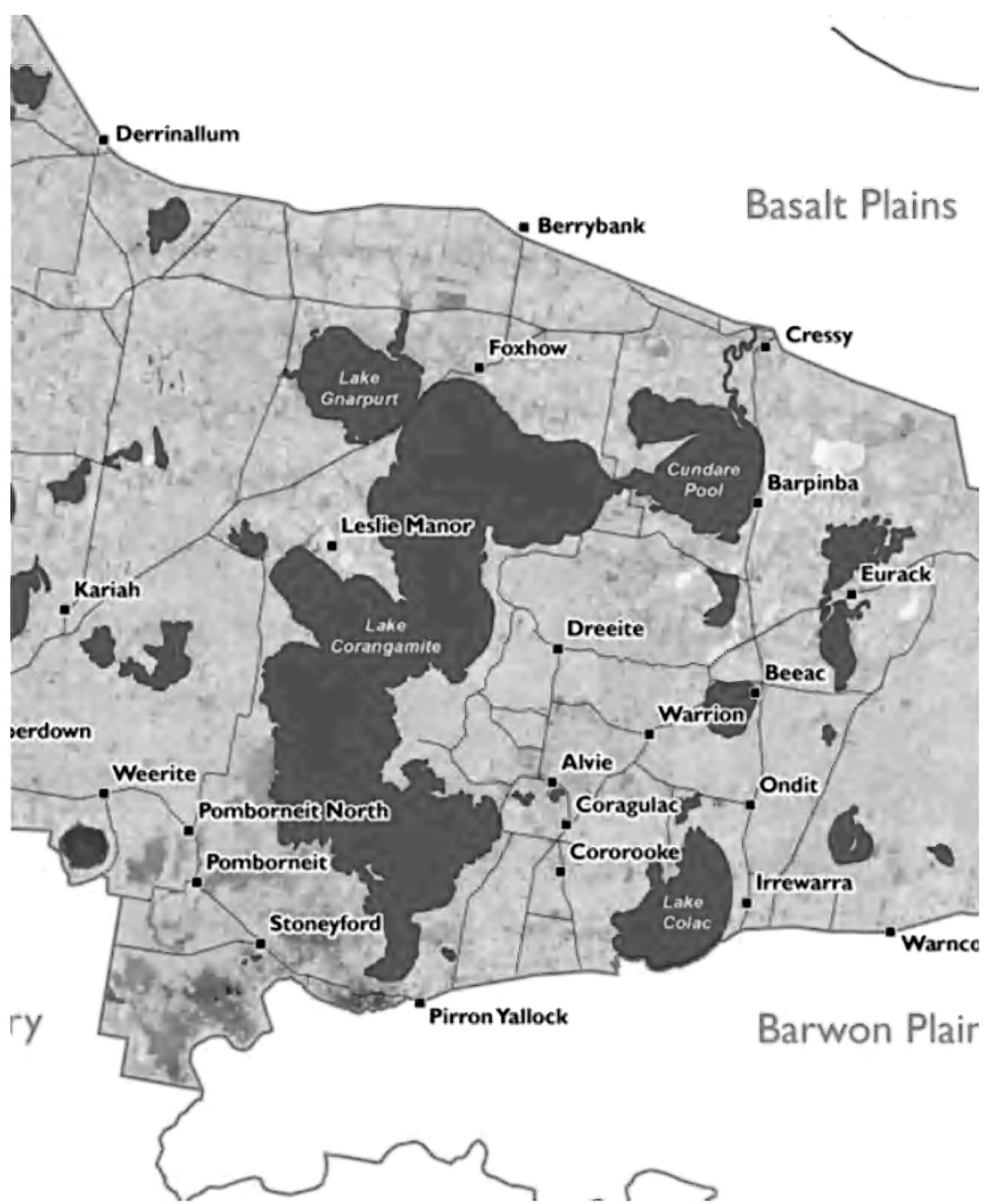
The proposed book – ‘Environmental History of Lake Corangamite and the Stony Rise Country’

Information sources will include scientific papers, TROVE (Newspaper articles) and PROV (Public Records Office data), government reports and CMA data base. Visits to the area are needed to speak with local landowners and officials, historical societies, water agencies and scientists. Gains and losses from past

management will be assessed. The book will speculate about ideas for future use and management, including the potential for wind power generation and improved information and access for visitors and recreational users. The proposed FNCB excursion to the area on September 3 promises to be a very interesting event. We thanked Leon sincerely for his talk and for introducing us to this project.

John Petherham

Map of Western Districts Lakes. Ramsar Wetlands
From: <https://corangamite.rcs.vic.gov.au/local-areas/local-area-3/>



Notes from Ballarat Field Naturalists excursion to Lake Goldsmith and Stockyard Hill on Saturday 6th May 2023

On a cold and sometimes drizzly day, 11 members of the Ballarat Field Naturalists Club ventured out to Lake Goldsmith (870 ha) and to Black Lake (80 ha), which is located in the crater of the Stockyard Hill volcano. The trip was led by President Margaret Rich, and members Andy Arnold and Neville Oddie. Those attending had to navigate the considerable traffic attending the Lake Goldsmith Steam Rally being held nearby on that weekend. We made our base at the Lake Goldsmith Hall (the old Lake Goldsmith Primary School) for which we were once again grateful for the shelter and the use of facilities.

Andy and Neville introduced the group to the volcanic nature of the landscape and how the visible features were formed. Essentially, it is contended that the landscape consisted in earlier times of primarily older volcanics (code Tvn on the Ballarat geology map), dissected by watercourses draining in a generally southerly direction. The eruption of the Stockyard Hill volcano blocked off one of these watercourses forming a barrier which led to a large impoundment of water including what is now Lake Goldsmith, together with an area to the north and west of Mt. Emu. The newer volcanics resulting from the eruption flowed mainly to west and south of Stockyard Hill (code Qvh on the Ballarat geology map). The sediments that collected in the low-lying areas and floodplains of the drainage lines are coded Qro on the Ballarat geology map. Ultimately, the mega lake overflowed and cut a new course which is represented by the Mt. Emu Creek, leaving behind Lake Goldsmith as it is now. The peninsula of stony country extending into Lake Goldsmith from the east is a flow of older volcanic material (Tvn). This was the area (called by others as the Spit) where our group walked into.

Lake Goldsmith is designated as a Wildlife Reserve (Hunting) and so duck-shooting is generally permitted when the conditions allow. This year, however, there had been sightings of the Blue-winged Shoveler and so the lake had been closed for duck - shooting for this season, thankfully. Our group was on the lookout for any creatures, plants or fungi to add to the record.



Male

Members Vireya Jacquard and Graeme Lunt recorded the following birds seen on this trip on iNaturalist: Welcome Swallow; Magpie-Lark; Grey Fantail; Black Swan; Chestnut Teal; Pink-eared Duck; Magpie; Little Raven; Superb Fairy Wren; Masked Lapwing; Kookaburra; Crimson Rosella; Thornbill; Coot; Blue winged Shoveler; and Brown Falcon. There were large numbers of water birds resting throughout the lake. A comprehensive report on the birdlife of Lake Goldsmith was prepared in 2017 on behalf of Birdlife Ballarat by Ian Ashton, Murray Grant, John Gregurke and Roger Thomas. This report details an overview of the lake and details of surveys and bird counts. It clearly demonstrates the importance of Lake Goldsmith as an ephemeral wetland resource for a wide range of Australian resident bird species as well as migratory waterbird species protected by a range of International Agreements. This report is recommended to members.

The conclusions and recommendations from the report are worth repeating:

“Maintaining the ephemeral nature of the lake is therefore important, there should not be any artificial management of water levels at Lake Goldsmith.

Weed management would be beneficial, especially the management and removal of the Salt Paperbark and other non-endemic trees and shrubs.

If duck shooting is to continue at the lake, we recommend a preseason survey aimed specifically at checking for the presence of migratory shorebirds and the closing of the lake to shooters if these surveys prove positive.”

These recommendations should be considered as relevant today as when they were written.

It was clear that the Spit and a significant amount of the lake perimeter had been highly modified by earlier plantings of trees and shrubs not endemic to the area. Observers on this trip saw that there appears to have been no efforts to deal with non-endemic and exotic vegetation. This would appear to have been a continuing failure of both policy and a commitment to provide adequate resources to address the issue. Non-endemic plantings included: *Acacia decurrens*; *Callitris verrucosa*; *Melaleuca ericifolia* and various eucalyptus species. Some of these plantings might date back as far as the 1960's.

Amongst the vegetation observed by members were the following, recorded on iNaturalist:

woodsorrel; bidibid; bottlebrush spp.; allocasuarina spp.; milky beauty heads; river redgum; sea primrose; beaded samphire; Round-leaf *Wilsonia*. Others sighted included: cherry ballart; blue devil; kangaroo grass and more. There was an interesting area that had been previously enclosed by some low fencing now in a very poor condition. Members speculated as to the purpose of the enclosure. There has been a report by Amy Winnard and Graeme Coulson in 2008 about attempts to reintroduce a population of the Eastern Barred Bandicoot to this area of Lake Goldsmith from around 1989. The report recorded that the population declined in the mid to late 1990s due probably to the affects of drought, foxes and feral cats and did not recover. The observed enclosure would not have been suitable for the release of bandicoots. Andy Arnold has now reported that PV Ranger Tom Cook has confirmed that the enclosure was an attempt to provide protection for two rare grass species: Adamson's Blown-grass (*Lachnagrostis adamsonii* subsp. *Adamsonii*) and Salt Lake Tussock-grass (*Poa sallucutris*). We were not successful in observing these two rare grasses. Possibly grazing by rabbits and Eastern Grey Kangaroos have had an impact. Interestingly, iNaturalist records for Lake Goldsmith the following species with Research Grade Status, all of which were observed: *Selliera radicans*; *Salicornia quinqueflora*; *Wilsonia rotundifolia*; *Chenopodium nutans*; *Melicytis dentatus*.

Les Hanrahan provided a record of fungal species observed by himself and other members. These included: *Agaricus arvensis* (Horse mushroom); *Agaricus campestris* (Field mushroom); *Agaricus xanthodermus* (Yellow stainer); *Bolbitus titubans* (Egg yolk toadstool); *Gymnopilus junonius* (Spectacular rustgill); *Laccaria* spp. (A laccaria); *Pisolithus arhisus* (Horse-dropping fungus); *Scleroderma cepa* (Earthball). The field mushroom and the yellow stainer were seen at Stockyard Hill. Thankyou Les. Amongst insects observed were the following recorded on iNaturalist: Horehound bug; *Eriococcus* caterpillar; German yellow jacket; Blue ringtail; Brown shield bug; *Cymbacha* spp.; *Chrysoma* spp.; Black jumper ant; and Grasshopper spp. Weed plants seen included: white horehound; South African weed orchid; sweet briar; boxthorn; hawthorn; *Phalaris*; and spear thistle. Altogether a snapshot of a mixed bag of creatures and plants trying to co-exist. The challenge remains as to how the desirable and undesirable species should be managed into the future.

The second part of the trip involved a visit to Black Lake. Notes record that Black Lake is a "maar at Stockyard Hill (which) contains

an open brackish wetland that is used by waterfowl in conjunction with nearby Lake Goldsmith”. There is some uncertainty as to whether Black Lake is indeed a maar and this requires confirmation. The Lake is central to a Crown Reserve and serviced by a Crown road reserve from the Skipton-Stockyard Hill Road. The Lake and the volcanic precinct are otherwise privately owned land used for grazing and cropping.

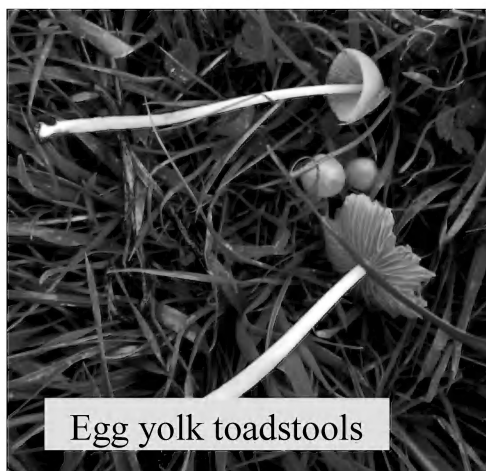


The walk in from the road was long and quite wet with unpleasant weather. Nevertheless, members were able to observe the volcanic feature in its entirety and see that this ephemeral wetland was well filled from recent wet seasons, and carrying a significant number of waterbirds of similar species to Lake Goldsmith. We were able to observe a remnant of *Melicytis dentatus* (Tree Violet) woodland on a rocky area adjacent to the lake. There has been some effort to plant trees and shrubs along part of the Western Shore. Last year the community group called Friends of the Forgotten Woodlands has been replanting a mix of *Allocasuarina verticillata* (drooping she-oak); *Banksia marginata* (silver banksia); and *Bursaria spinosa* (sweet bursaria), from remnant recorded populations. These plantings have taken place on selected roadsides, the edge of Black Lake, and other locations. The aim has been to reconstruct the components of an earlier vegetation community which was not dominated by Eucalyptus species. All individual plants are GPS recorded and their genetic source also recorded. A most interesting project.

We retired from a potential rain-soaking and returned home. Many thanks to the observations and records of all who attended this trip. Thanks again to the Lake Goldsmith Hall Committee.

Neville Oddie

Photos Carol Hall & Val Hocking



Egg yolk toadstools



Lake Goldsmith sightings



Many wind turbines were seen from Stockyard Hill fanning
about 180 degrees

SEANA Camp - Port Campbell - April 28 to May 1, 2023

Hosted by Timboon Field Naturalists Club

A dozen of our Ballarat members enjoyed this coastal discovery weekend along the well-known coastal strip adjoining the Great Ocean Road each side of Port Campbell. Of course, we soon realised how little we really knew, as group leaders took us to less familiar areas and shared their expertise in niche topics. Informal contributions from 100, often very experienced, participants also added to this very stimulating mix.

Half-day tours and activities included:

Beachcombing (led by Marg O'Toole) took us to the area below the cliffs at Wild Dog Cove at low tide. Piles of kelp (including several different species) were adorned with colourful seaweed and the remnants of various marine creatures. Meanwhile birds were spotted, the structure of the cliffs examined and very unusual things identified (like “sea potatoes”, skeletal sections of bluebottles, and a skate’s egg).

Wetlands (led by David Smurthwaite) included inspection of a number of small clifftop pods, from Massacre Bay to Crofts Bay, their ecology and rehabilitation. Local geology has created a series of depressions inland from the cliffs, home to a variety of plants and wildlife, and a key part of the local ecosystem. Short talks included samples of the flora, including the confusing array of sedges and rushes – and built our awareness of the needs of different locales.

Birding (with Kerry Vickers) took us to four favoured locations around Peterborough covering coastal and estuarine areas. Kerry provided a detailed overview of birding activities there during the year, interesting tales of notable sightings and some information about changes in recent years. Kindly distributing his map, bird lists and local newsletter provided us with a great kit for future visits.

Halladale Point (led by Linda, from Friends of the Bay of Islands) covered the geology, colonial, recent and Indigenous history, and showed us the results of nearly thirty years of rehabilitation work by the Friends group. We enjoyed walking around this harsh but beautiful area, and sharing her detailed knowledge of the many local plant species.

Coast Gully Thicket (with local bush restorer, Linda Schofield) centred on a small, but important, area adjoining the Port Campbell Cemetery, which provides a significant link between two sections of the National Park. Formal regeneration was kick-started following an ecologist’s report on weed infestation and a subsequent action plan. While work is ongoing, it was a pleasure to see the vigour of local plantings and hear of collaboration with local landowners.

Backtracks (leader Sharlene). Starting out at Loch Ard Gorge, the group drove down three relatively unknown dirt roads towards the cliffs. There was some time for botanising (particularly featuring the *Wilsonii humilis*), and relishing the pleasure of getting well away from the usual tourist routes.

Drawing Workshop (with Maureen Gristini) began with the basics of making a nibbed pen from a reed and a quill from a goose feather, and skills were developed by “playing around” using these for ink drawings. A still life was then attempted with seed pods, leaves and flowers. This was a different way to observe nature and develop creativity.

Socialising at lunches and dinners was followed each evening with **illustrated lectures:**

Mission Macrocystis (Marg O’Toole). Kelp beds are a key feature of the local marine environments and Giant Kelp (*Macrocystis pyrifera*) is a very striking participant. Perhaps the fastest-growing plant known (at up to 60cm a day) and attached to the sea floor by a remarkably resilient “hold-fast”, its photosynthesis contributes to the chemistry of the water and provides significant carbon capture.

Fronds of up to 100m. in length create a rich, sheltered home for many varied organisms. After a disturbing decline in recent decades, locals were delighted to see a recent strong return of the Giant Kelp. This development has not yet been explained. Threats remain (include rising water temperature, hungry sea urchins moving closer), but essential research and documentation is now underway.

Megafauna Footprints (John Sherwood). While skeletal and fossil evidence is highly prized, trackways (usually “footprints”) can reveal more about the behaviour of long-gone individuals and groups. Australian dinosaur footprints are well-known (e.g. at Winton), but John’s focus was on tracks of our more recent megafauna – the giant wombat, a 3m. glider and the Tasmanian Tiger. Such interesting species to investigate, with their extinction over the last two million years not easily explained. John listed many suggested reasons, possibly combining to seal their fate.

Native Blackfish (Stephen Mueller). *Gadopsis marmoratus* is a significant freshwater native fish in serious decline. The need to restock waterways has been known for some time, but no supply of young was available. Our speaker took on this challenge and spent many years on the practical aspects of creating suitable artificial pools, ensuring the survival of eggs and hatchlings, improving the feeding regime and managing release. Bureaucratic requirements created hurdles, but essential research is increasing. Improved knowledge of the species and attention to improving the state of our rivers may assist with their return.

Many thanks to the Timboon Field Naturalists who provided such a full and rich programme.

- Shirley Faull.

Photos Val Hocking



Bay Of Martyrs beach

View near Port Campbell



Highlights from the FNCB Club Meeting Minutes

May 5th 2023 at 7.30 pm

Held in person and via Zoom

Opening and Apologies

Attendance: FNCB President Margaret Rich acknowledged the traditional custodians of the land we were meeting on and welcomed 15 members and two visitors attending in person, including our guest speaker Prof. Leon Bren, along with six members attending via Zoom.

Apologies: John & Elaine Gregurke, Peter & Emily Noble, Shirley Faull & Mark Moravec.

Guest Speaker:

“The environmental history of Lake Corangamite: A Neglected Lake” presented with visuals by Professor Leon Bren.

John Petheram introduced our guest speaker, outlining his training and academic career as a hydrologist and associated interests in geological history, environmental issues, land use and changes due to human interventions. John also volunteered to write-up this presentation for the newsletter.

Prof. Bren’s wide-ranging presentation included the basic geology, inflow from the Woody Yaloak and changes; the records, or lack thereof, observations of water flows, water levels and effects of interventions; major changes due to the construction of the Cundare Pool and salinity issues and falling water levels, as well as social history, land use changes as non-indigenous settlement and schemes for closer settlement encroached, and the ensuing clamour for flood control.

Following Leon’s presentation, he suggested possibilities for destinations for a weekend-long field trip to the Lake Corangamite area in September, including the Cundare Pool, Red Rock, Pomborneit south to Mt Porndon and a possible route on the north-western side. These were welcomed and briefly discussed.

Business Arising from Previous Club Meeting on April 14, 2023

On behalf of members, Emily has written to [South East](#) Australian Naturalists Association (SEANA) representative Phil Rayment to accept the offer for FNCB to host the SEANA Spring Camp in 2025.

Emily has now sent the 2023 Calendar of Activities to members, including a roster for members to nominate a speaker/ field trip they’d like to write-up for the newsletter.

Volunteers have now been received to write-up the speaker's presentations in July and September. The President urged all members to consider their input for this.

Correspondence Report

The Inwards Correspondence be accepted and the Outwards Correspondence was approved, as documented in the Correspondence Report circulated on 11th April, 2023.

Reports:

Treasurer's Report

Opening bal. (as at Mar. 3): \$8,851.42
Income:\$ 263.20---
Expenses:\$ 114.97
Closing bal.:\$8,999.65

Reminder: any members yet to pay their membership fee for the year to please do so ASAP as per details in the newsletter.

Moorabool Fungi Festival- Carol Hall gave a summary of the wide range of presentations, activities and sessions, the book stalls, arts program and the quite remarkable expertise on many subjects. Participation was especially enthusiastic, the weekend well-attended, and it catered for a broad spectrum of interests.

SEANA Autumn Camp hosted by Timboon FNC at Port Campbell in April:

Peter D reported that 109 participants joined the 3-day event at an excellent venue, and the many excursions focussed on the coastal strip, predominantly within the national park. For example, excursions focused on 12 different wetlands with unique ecosystems and habitats.

Claire outlined her participation in an arts program using natural materials and a photograph of her achievement was later displayed. Andy reported that M. O'Toole from Timboon FNC presented on both a study of giant kelp, its importance and evidence of population rebounds recently, as well as on a beach-combing excursion and many intriguing discoveries.

General Business

Saturday 6th May field trip, 9.30am-3.30pm: Stockyard Hill crater and Black Lake and Lake Goldsmith, to be led by Margaret Rich, Neville Oddie and Andy Arnold.

Don't forget to see Rosalind Lawson's art exhibition featuring the fungi within 1km of her home in Napoleons if you get a chance. It will be at The Mercure Convention Centre showing until Monday 12th June. See notice

Show & Tell/ Field Reports

Carol described the unique weather event (35km+ winds) that predominated during the SEANA Camp at Port Campbell which gave spectacular swells, the power of the waves evident, along with the physical geography and tracks off the main thoroughfares which gave rarely accessible views of the coastline. Carol's latest photo-book featuring birds was also enjoyed by members.

Les reported on a group of up to 15 Stubble Quail disturbed recently while slashing along a fence line in his Bungaree property. One bird appeared older and larger than others.

Next Meeting: "Fungi" to be presented by Ema Corro, mycologist.

When? Friday 2nd June, 2023, 7.30pm in person at the Federation University building at the corner of Gillies St & Gregory St, Wendouree or via Zoom if you prefer.

Meeting closed: 9.18-pm

Landscapes over time and place The fungi of the Napoleons area

An Art exhibition by Rosalind Lawson

At The Mercure Convention Centre Main Road Ballarat

From May 16th to June 12th

The display will include assembled panels of small paintings of over one hundred species she has found close to her home in Napoleons.

Considerable care (and consultation with numerous experts, including some from our club) has allowed her to name them.

Note that the exhibition is near the reception desk at the Mercure, in Main Road. It is open most of the time, as the area is the hotel's coffee lounge.



**Sunday 4th June field trip: Fungi Foray:
Korweinguboorra, Moorabool Reservoir & Mollonghip.**

The fungi excursion will visit two places in the Wombat Forest. We will leave from the Federation University carpark on the corner of Gillies Street and Gregory St, Wendouree at 9:30am sharp. Another meeting point is at the junction of the Spargo-Blakeville Rd and Ballan-Daylesford Rd at 10:15am.

Before lunch we will be near Cairns Road, Korweinguboorra. We will have lunch at the picnic ground at the Moorabool Reservoir at about 12:30pm. After lunch we will travel to Slaters Road, Mollonghip.

Wear appropriate clothing and clean boots.

You could bring a small mirror, a hand lens, a camera and fungi field guides.

July 2023 Newsletter

As Val will be away for much of June, Vireya will prepare the July FNCB Newsletter.

Please email all reports and other contributions to her as soon as possible or by 18th June

Vireya Jacquard <vireya@gmail.com>

Note from the Treasurer- FNCB Annual Membership

Reminder to all members that we now invite you to renew your membership of our Club for 2023/24

The preferred method for you to pay is via direct deposit into the FNCB bank account.

**Rates are again set at: \$15 student \$35 individual
 \$55 family \$20 distant member.**

\$13.20 to cover postage for those who wish to receive a hard copy of the newsletter in the mail.

Account Name: Field Naturalists Club of Ballarat Inc.

BSB: 633 000 Account Number: 119112290.

Please quote your name as the reference.

Kathy Elder Treasurer

Excursions and Meetings

Fri June 2nd at 7.30 pm Speaker Ema Corro, Mycologist Fungi
in person at Fed Uni Gillies St and by Zoom

Sun June 4th Les Hanrahan, Club member Fungi Excursion

Future events

Fri July 7th Emily Noble Nature's carpet: mosses and lichens

Sun July 9th Emily Noble Mosses and lichens at Surface Hill
historic area

Next Committee meeting Tuesday 27th June at 7.30 pm via zoom

SEANA Camp in Spring (October 20-23). Will be based in Yarram
and hosted jointly by the Latrobe Valley and Sale & District
FN Clubs

**Club meetings are normally held on 1st Friday of the month at
7.30 pm at the Federation Uni Gillies St Campus (corner of
Gillies and Gregory Sts, Lake Wendouree),**

Committee

President	Margaret Rich
Secretary	Emily Noble
Treasurer	Kathy Elder
Committee	Andy Arnold
	Val Hocking
	Graeme Lunt
	John Petheram
	Elva Bird
	Sheree Cartledge

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Club email: ballaratfnc@gmail.com

Meetings - in person and may continue to be held via Zoom.

Members will be kept informed of arrangements each month.

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